



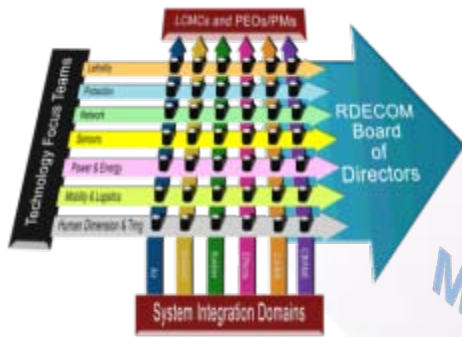
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# **RDECOM's Ground Combat Vehicle S&T Support Strategy: An Integrated Approach**

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19 May 2010

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- **Maturing RDECOM's Integration Processes**
- **Taking the Ground Systems Integration Domain to the Next Level**
- **RDECOM Process Adapted to GCV**
- **Support Across the Life Cycle**
  - Pre MS A
  - Aligning the Portfolio Pre PDR
  - Aligning the Portfolio Post MS C
  - Tech Insertion Maturation and Risk Reduction
- **Systems Integration Across the Ground Domain Fleet**



## Continuous Integration Evolution

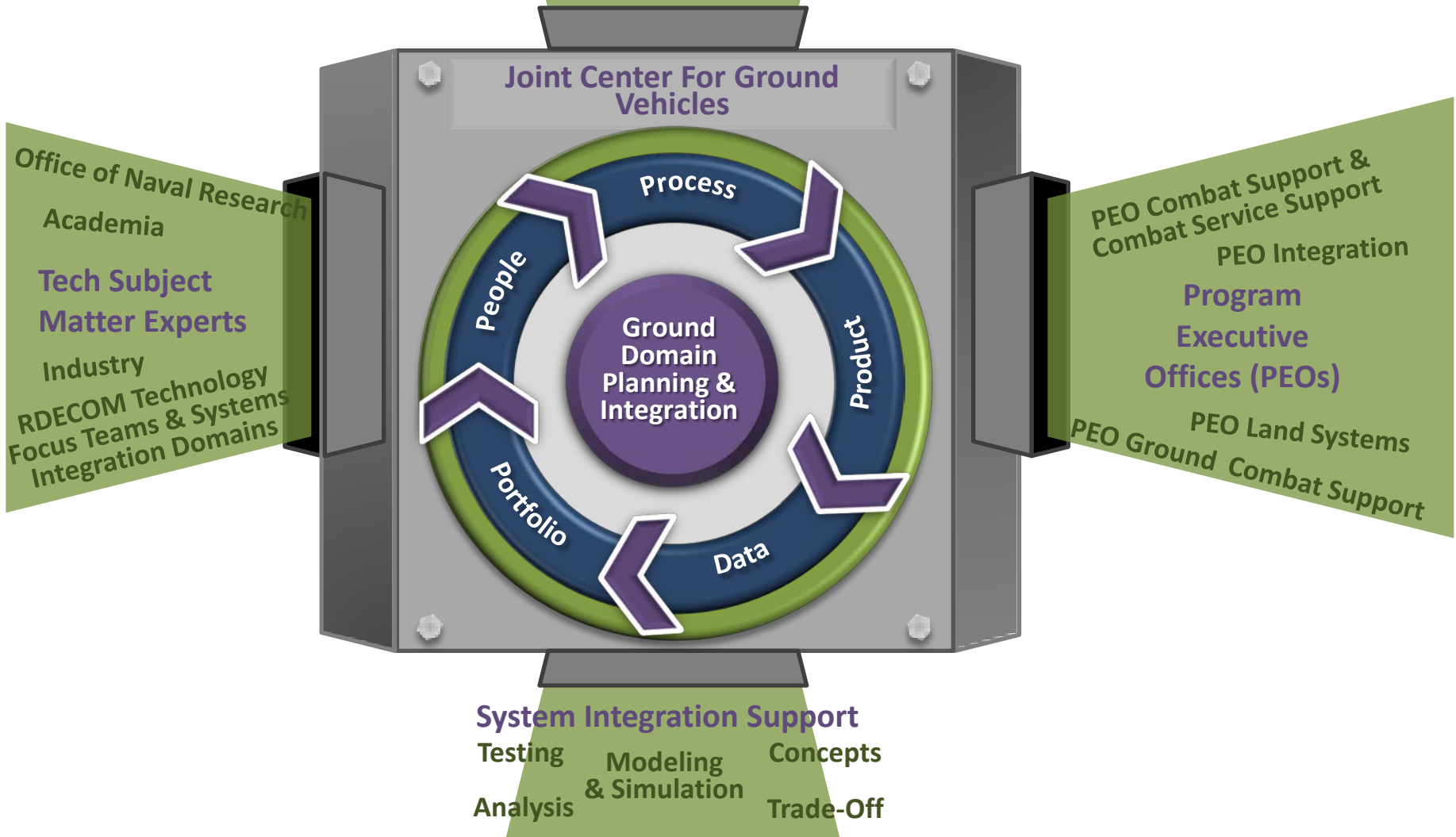
- Technical Expertise
- Processes
- Data
- Products

*Maturity Evolution*

**Ground  
Domain  
Planning &  
Integration**

Joint Center for  
Ground Vehicles

U.S. Army Training and Doctrine Command **Users** Marine Corps Combat Development Command

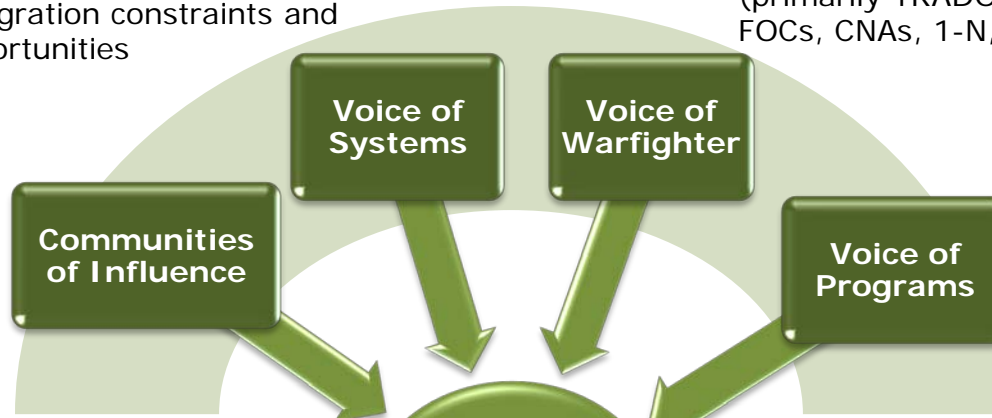


## Information Supports Integrated Decision Making

System Technical Design &  
Integration constraints and  
opportunities

Soldier Needs & Wants  
(primarily TRADOC), WFOs,  
FOCs, CNAs, 1-N, CDDs

Joint Leadership,  
RDECOM, Industry,  
Academia, Innovation,  
Standards & Regulatory



Business parameters:  
cost, schedule,  
performance

**Integrated Capability/Needs Analysis**  
**Integrated Strategic Planning**  
**Integrated Decision Making**  
**Integrated Portfolio Development**

**System Centric Support:**  
**People, Process,**  
**Products, Data, Portfolio**



Resources aligned to  
address needs and  
priorities

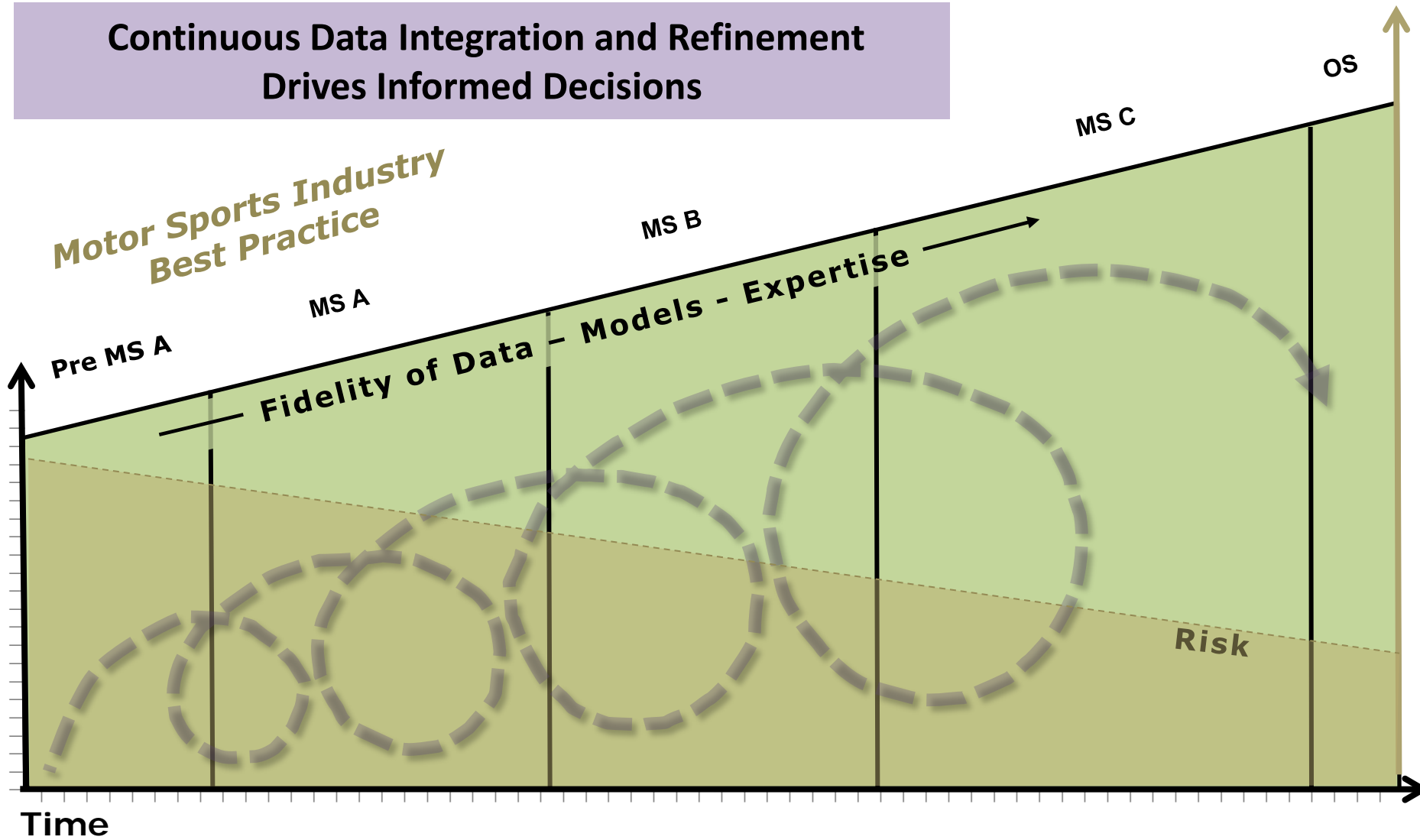
Plans and Programs coordination to  
align with cost, schedule, &  
performance goals

Strategic Relationship  
Management -- RDECOM  
(TFTs & SIDs) and Ground  
Domain Stakeholders shape  
investment strategies

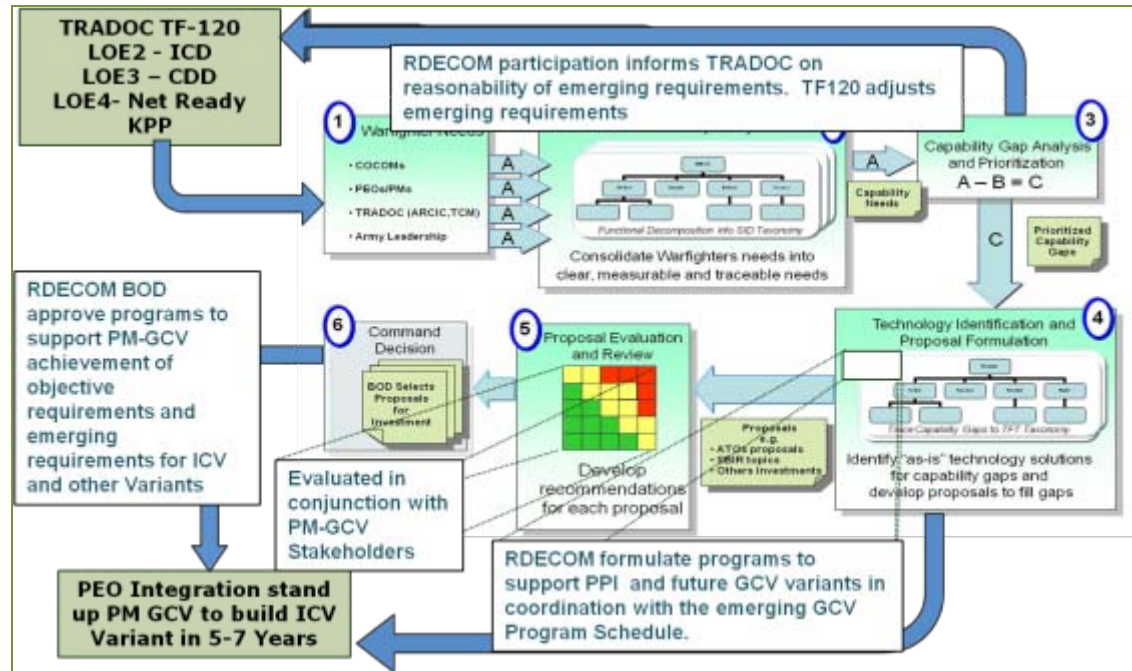
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Continuous Data Integration and Refinement  
Drives Informed Decisions



Building Life Cycle System Knowledge Over Time



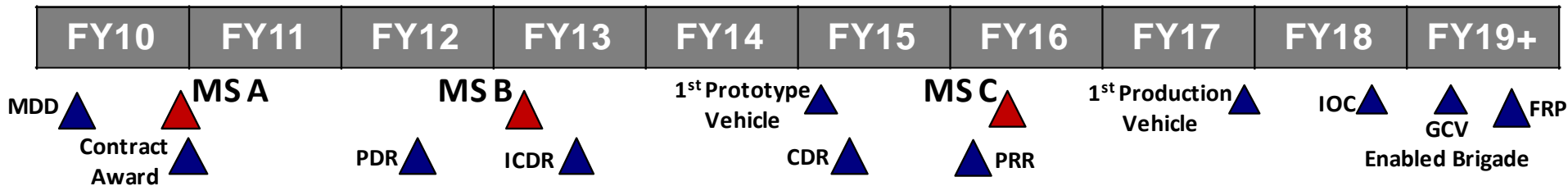
- ✓ Repetitive, Robust Process
- ✓ Methodology to Address Gaps
- ✓ Full Transparency across RDECOM
- ✓ Drives Corporate Decision Making

Supports Building the Portfolio



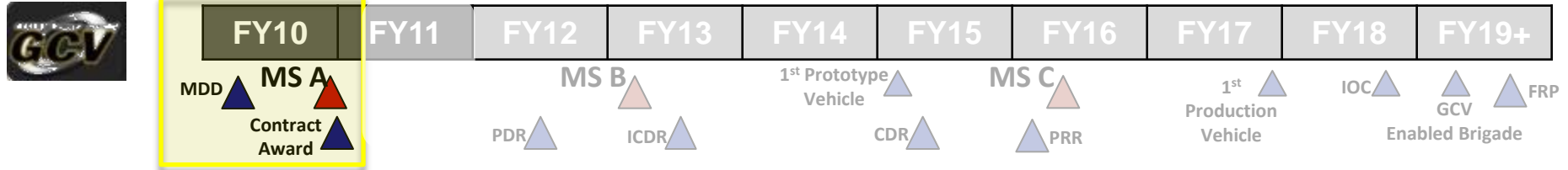
Ground Combat Vehicle has become the first example of the new integrated RDECOM / GSID approach that can support a platform through its Life Cycle

## GCV Program Schedule



Platform Support Across the Life Cycle

## GCV Program Schedule



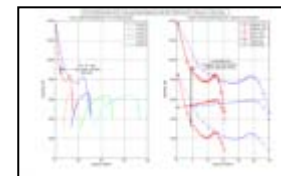
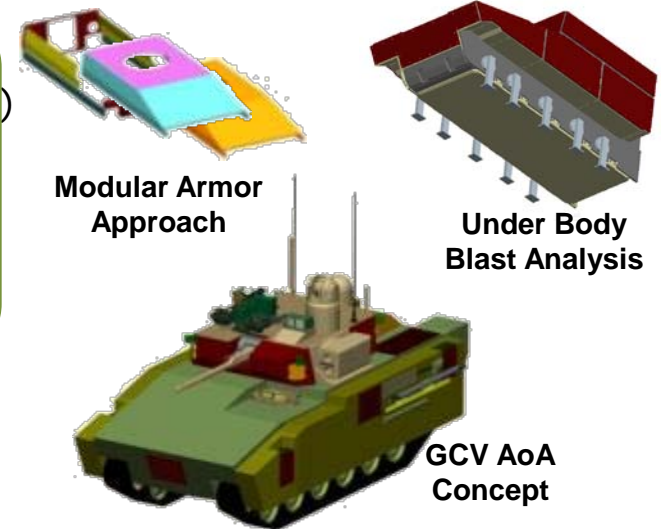
### Task Force 120:

- Successful creation the GCV Requirement Document (CDD)
- Embedded with TRADOC MCOE and Program Office
- Utilizing M&S to quickly iterate requirements
  - Less than 24 hour turn around
- Created GCV CDD in less than 4 months

### Analysis of Alternatives:

RDECOM created GCV Concept as a physical representation of CDD requirements for AoA Analysis

- Provides initial assessment of vehicle SWaP impacts
- Concept supported and matured with the requirements development and refinement process

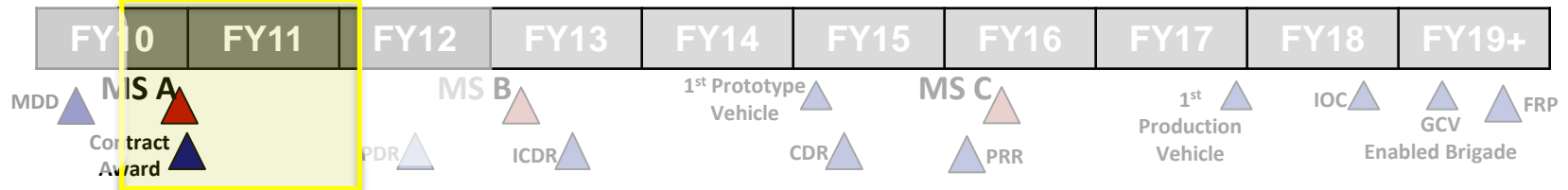


Mobility Analysis



Human Factors Engineering

## GCV Program Schedule



### Portfolio Review:

- Identify Programs Relevant to GCV
- Map Programs to GCV Schedule



### Portfolio Analysis:

- Prioritize Programs Identified Against GCV Requirements:
  - Tech Maturity Assessment
  - PM Identified Gaps
  - Delivery Timelines
  - Integration Suitability

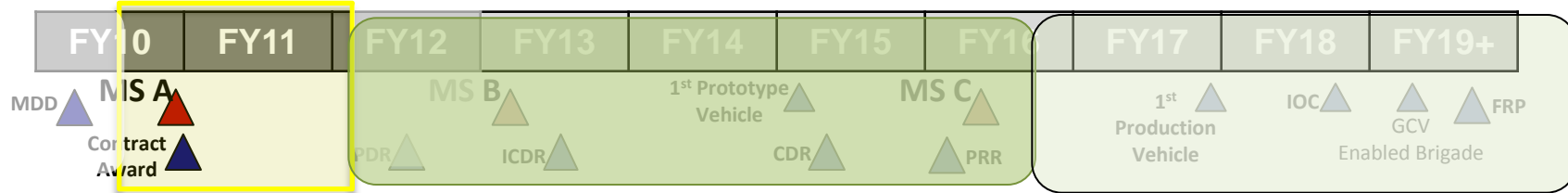


### Integration Package Development:

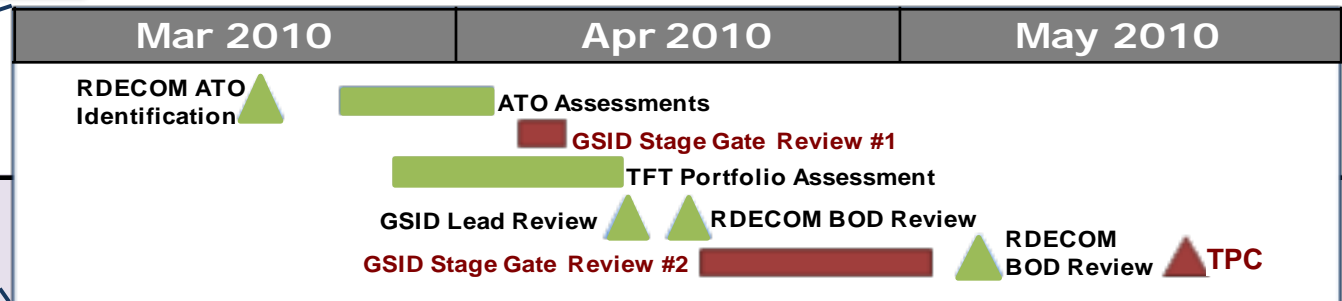
- Combine Related Programs into Integration Packages
- Integration Packages Focus on Merging Individual Technology Efforts into Cohesive System Level Evaluations

**Focusing on combining technology efforts into integration packages**

## GCV Program Schedule



GCV S&T Portfolio Alignment

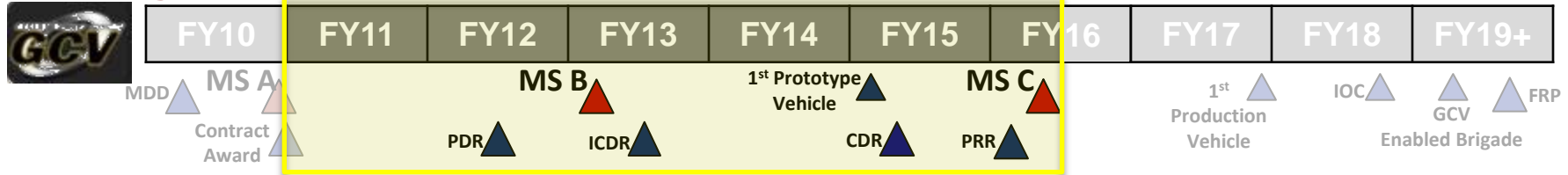


## OUTCOMES:

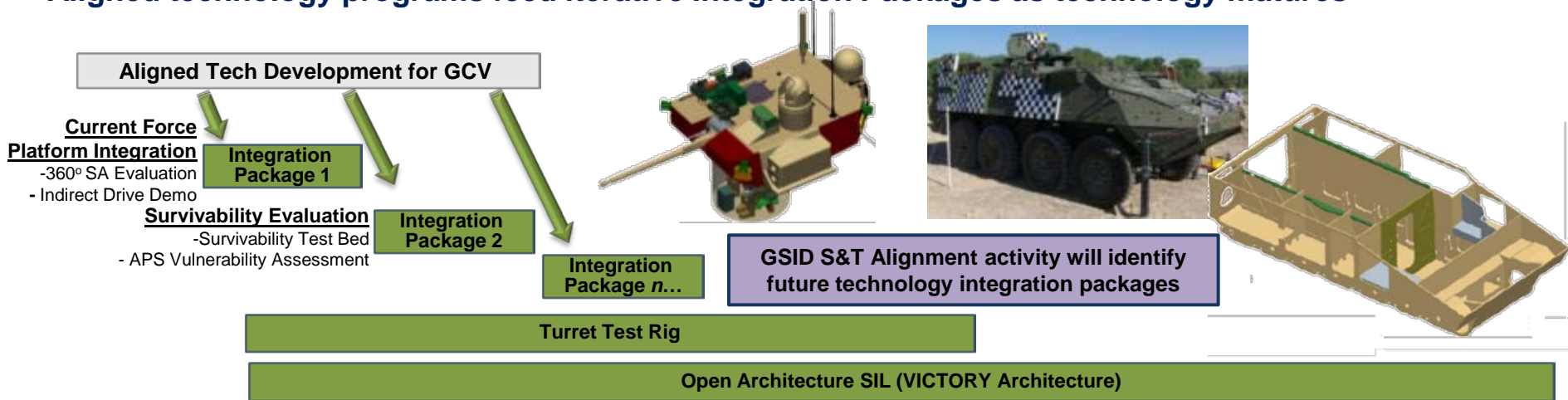


**Alignment has Synchronized Tech Development to Program Timeline**

## GCV Program Schedule



## Aligned technology programs feed iterative Integration Packages as technology matures



### Integration Packages will:

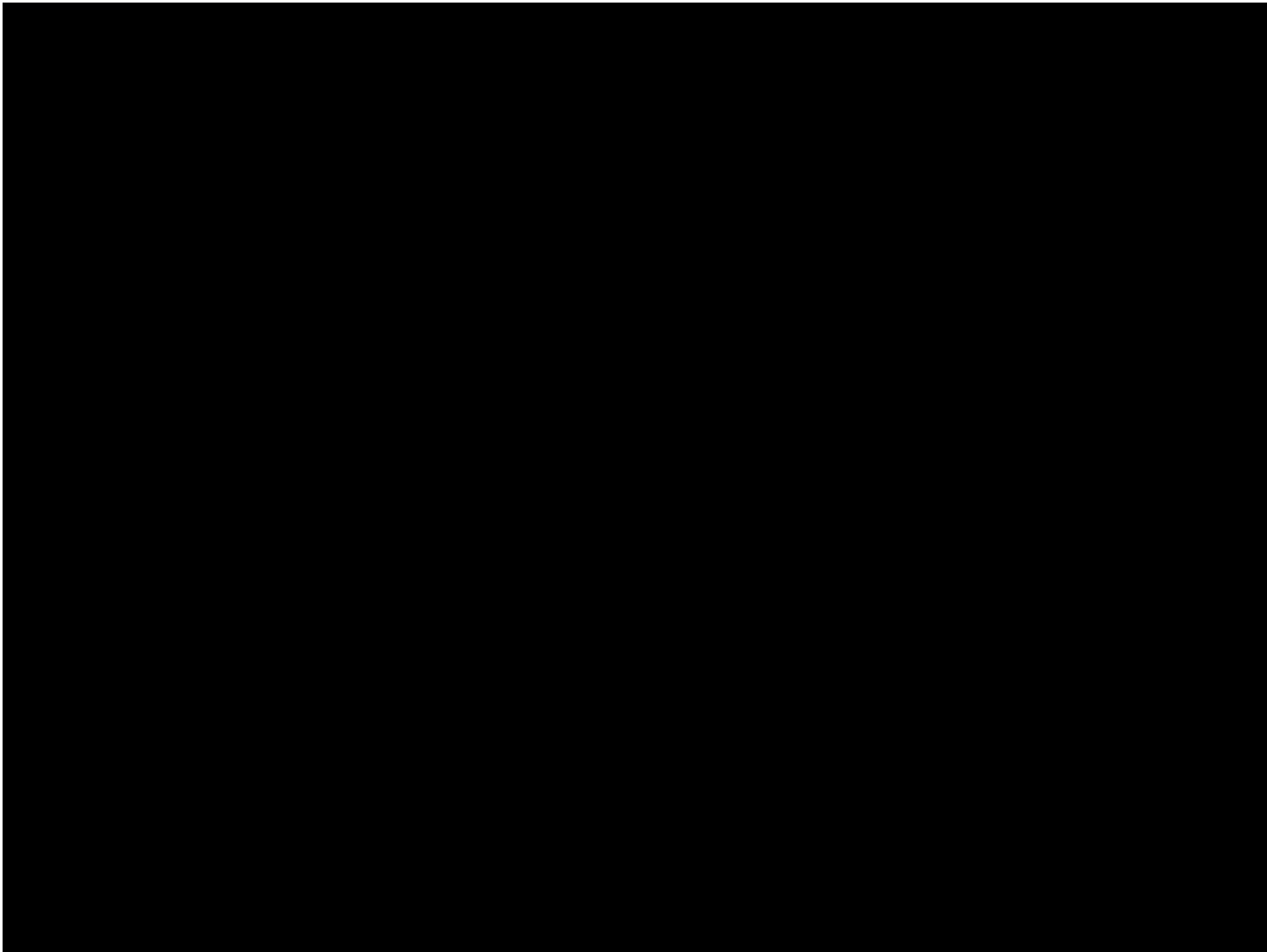
- Inform PM in key risk areas for the program
- Combine multiple related technologies for system level evaluations
- Build integration expertise across RDECOM
- Create system test fixtures to facilitate future integration opportunities







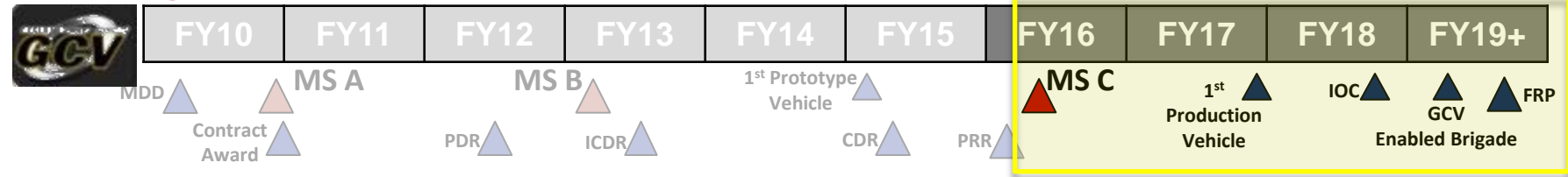
# Survivability Integration Demonstration



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## GCV Program Schedule



- Selected contractor prototype and production vehicles are delivered to RDECOM after testing.
- Vehicle become baseline for future planned ECPs and upgrades.
- Future portfolio alignments activities will focus tech development toward selected GCV's capability gaps

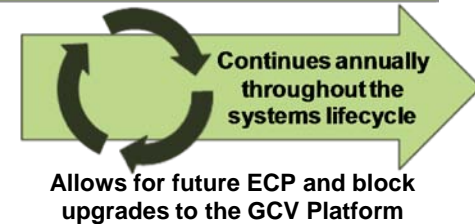
Deliver selected contractor prototype w/ supporting tech data to RDECOM

Deliver production vehicle w/ supporting tech data to RDECOM

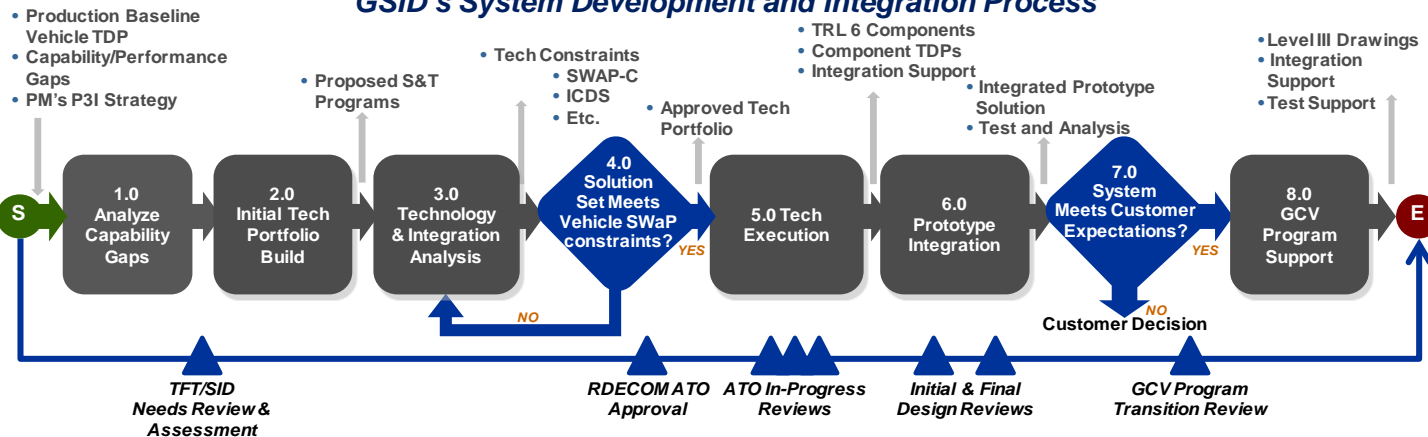
GCV S&T Portfolio Alignment

Implement GSID's System Development and Integration Process (See Below)

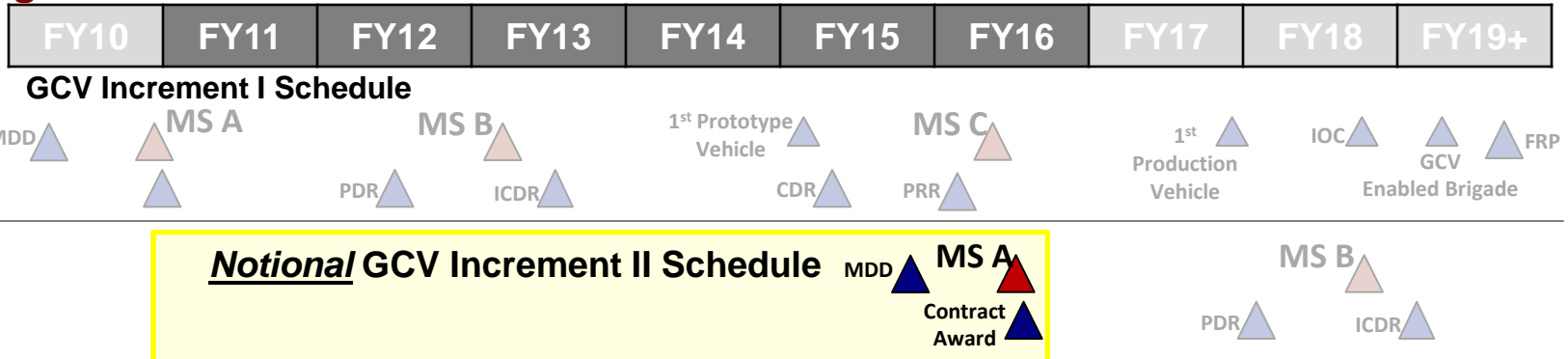
### Focused Tech Development for Production GCV



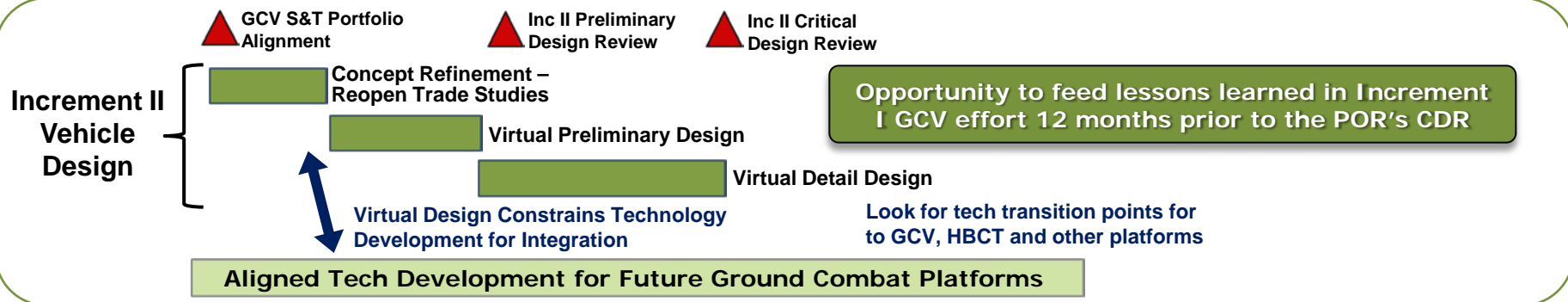
### GSID's System Development and Integration Process



## GCV Program Schedule



RDECOM is preparing for the next increment of GCV by creating vehicle designs focused on integrating the next-generation of technologies for enhanced capabilities



Advanced Combat Technology and Vehicle Integration Project

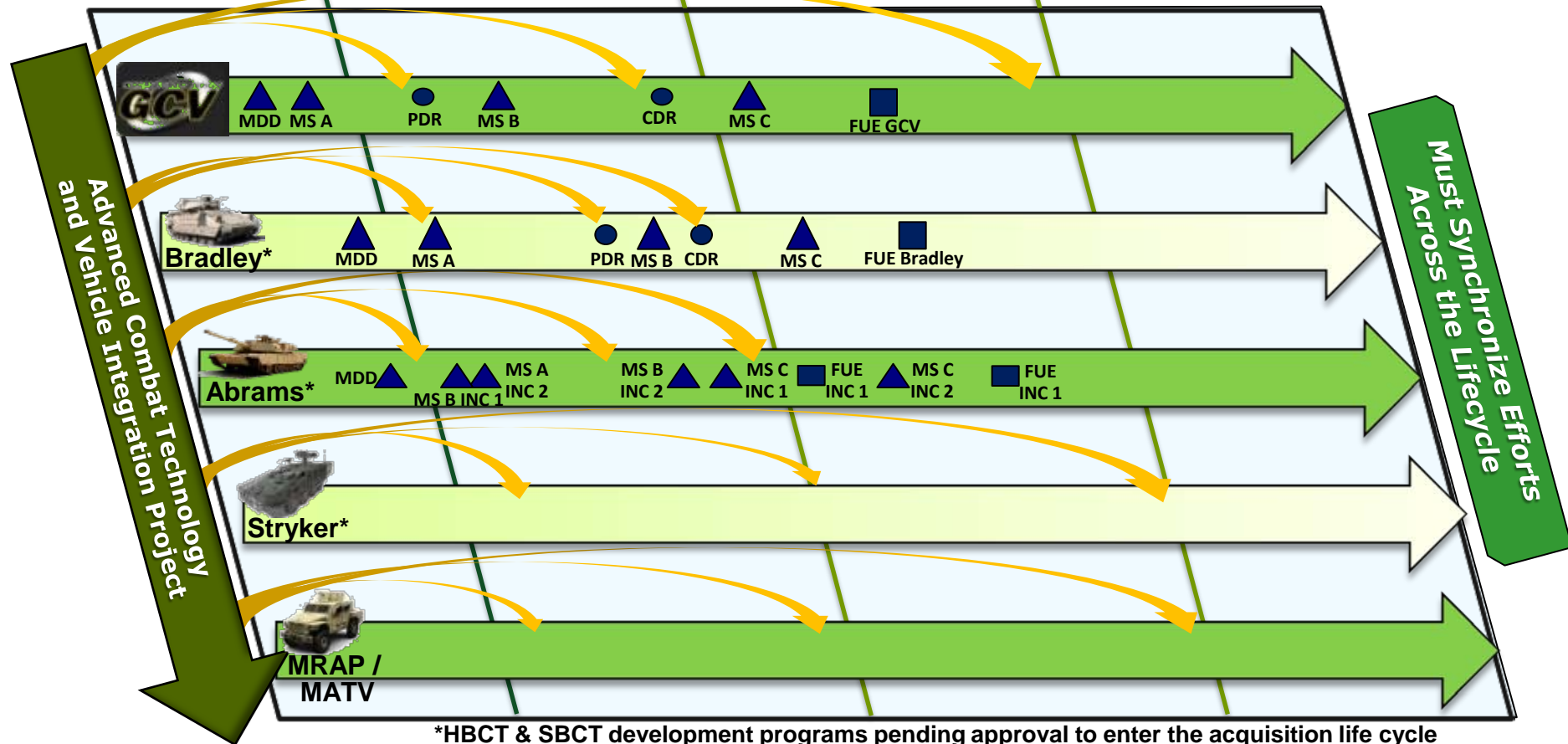
- Develop Organic Vehicle System Development Expertise within RDECOM
- Will Teach RDECOM how to Task Organize to take a System from Concept to Detailed Design
- Build the Processes Required to Manage a Concept Vehicle Build Program
- Opportunity to Determine Feasibility and Shape GCV CDD Objective Requirements Prior to MS B

FY10  
*Pres Bud*

FY11-15  
*Pres Pom Years*

FY16-24  
*The EPP Years*

*Beyond the EPP*



Development Supports  
Technology Insertion (TI)  
Across the Fleet

*Enterprise Approach Provides Strategic Flexibility*

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## Continuous Integration Evolution

- Technical Expertise
- Processes
- Data
- Products

## Building a Better Way to Deliver Capability to our Soldiers